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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,050	06/29/2001	John Ghrayeb	0148.1102-011	1490

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EXAMINER	
SCHWADRON, RONALD B	
ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/896,050	GHRAYEB ET AL.	
	Examiner	Art Unit	
	Ron Schwadron, Ph.D.	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 13-22* is/are pending in the application.

4a) Of the above claim(s) *13-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

1. Regarding applicants comments, claims 9-11 are drawn to DNA (the fused gene comprises two different DNA sequences) whilst claim 12 is drawn to an expression vector containing the aforementioned DNA which is a cell containing the aforementioned DNA. Regarding Group III, 32-39 should have read 13-15. The only method of treatment claims pending in the instant application were 13-15.

2. Applicant's election of Group I in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. Claims 9-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 5.

4. Claims 1-7,18-22 are under consideration. Claims 8-12 have been cancelled.

5. Applicants need to update the status of all US applications disclosed in the specification (e.g. those disclosed in page 1 of the specification).

6. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-7,18-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is apparent that hybridoma producing M-T412 or the cell line producing C128 is required to practice the claimed invention. The claims recite a chimeric antibody which uses the M-T412 variable region or a variable region of the same specificity. There is no disclosure in the specification of the identity of the epitope recognized by the M-T412 antibody. The only means to determine if an antibody had said specificity would be via competitive inhibition assays using the M-T412 antibody or its chimeric version (c128 produced by C128A). Similarly, there is no disclosure of the amino acid sequence of the variable region of M-T412, so either the M-T412 antibody or C128 would be required to produce said chimeric antibody. The reproduction of an identical cell line is an extremely unpredictable event. As a required element, it must be known and readily available to the public or obtainable by a repeatable method set forth in the specification. The instant specification does not disclose a repeatable process to obtain the hybridoma M-T412 or C128A cell line and it is not apparent if said cells are readily available to the public. Therefore, the enablement requirements of *35 U.S.C. 112*, first paragraph, may be satisfied by a deposit of said hybridoma or cell line. *See 37 C.F.R. 1.802.*

If a deposit is made under the terms of the Budapest Treaty, then an affidavit or declaration by Applicants or someone associated with the patent owner who is in a position to make such assurances, or a statement by an attorney of record over his or her signature, stating that the deposit has been made under the terms of the Budapest Treaty and that all restrictions imposed by the depositor on the availability to the public of the deposited material will be irrevocably removed upon the granting of a patent, would satisfy the deposit requirements. *See 37 C.F.R. 1.808.*

It is noted that the BPAI affirmed a similar deposit requirement based rejection in parent application 07/867100 for claims using the M-T412 variable region in a chimeric antibody.

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1-6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oi et al. as evidenced by Taylor et al.

Oi et al. teach chimeric antibodies wherein said antibodies contain murine variable regions and human constant regions (see page 215). The chimeric antibodies contain chimeric VH and VL wherein the V are murine derived and the constant regions are of human origin (see Figure 3 and page 218). Oi et al. teach a chimeric antiCD4 antibody based on a murine antiCD4 monoclonal antibody (eg. Leu 3, see page 220). The specification does not disclose what epitope the M-T412 antibody actually binds. The specification discloses that the epitope bound by M-T412 and M-T151 is different. The art recognizes that there are a limited number of immunodominant

epitopes on any antigen. For example, Taylor et al. indicate that CD4 probably contains 5-7 epitopes (see page 235, first column, first paragraph). Therefore it is reasonable to conclude that the claimed antibody binds the same epitope as the prior art antibody. Since the Patent Office does not have the facilities for examining and comparing the antibodies of the instant invention to those of the prior art, the burden is on applicant to show an unobvious distinction between the antibodies of the instant invention and that of the prior art. See In re Best, 562 F.2d 1252, 195 USPQ 430(CCPA 1977).

11. Claims 1-7,19,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oi et al. in view of Landau et al. or Taylor et al. or Weissenhorn et al. (1996).

Oi et al. teach chimeric antibodies wherein said antibodies contain murine variable regions and human constant regions (see page 215). The chimeric antibodies contain chimeric VH and VL wherein the V are murine derived and the constant regions are of human origin (see Figure 3 and page 218). Oi et al. teach a chimeric antiCD4 antibody based on a murine antiCD4 monoclonal antibody (eg. Leu 3, see page 220). OI et al. do not teach Fab derived from said antibodies or chimeric antibodies other than those that use Leu3. Landau et al. teach a panel of murine monoclonal antiCD4 antibodies (see Table 1), wherein said antibodies bind a variety of different epitopes on CD4. Weissenhorn et al. teach a panel of murine monoclonal antibodies which bind a variety of different epitopes on CD4 (see Table 1 and Figure 1). Taylor et al. teach a panel of murine monoclonal antibodies which bind a variety of different epitopes on CD4. The art recognizes that there are a limited number of immunodominant epitopes on any antigen. For example, Taylor et al. indicate that CD4 probably contains 5-7 epitopes (see page 235, first column, first paragraph). Therefore it is reasonable to conclude that the claimed antibody binds the same epitope as at least some of the antiCD4 antibodies disclosed in the prior art antibody. A routineer would have produced chimeric versions of said antibodies using the techniques taught by Oi et al. for the same reasons that Oi et al. produced a chimeric antiCD4 antibody based on Leu3. Oi et al. teach Fab (see Figure 1). Fab have a variety of art recognized uses. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to have created the claimed inventions because Oi et al. teach a chimeric antiCD4 antibody based on a known antiCD4 antibody and a variety of other antiCD4 murine monoclonal antibodies were known in the art. One of ordinary skill in

the art at the time the invention was made would have been motivated to do the aforementioned because Oi et al. teach a chimeric antiCD4 antibody based on a known antiCD4 antibody and Oi et al. teach that such chimeric antibodies have expanded utility in comparison to the murine antibodies from which they are derived (see 220, third column, last paragraph). A routineer would have prepared Fab based on said antibodies because Fab and the uses of Fab were well known in the art.

12. No claim is allowed.

13. Papers related to this application may be submitted to Group 1600 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Papers should be faxed to Group 1600 at (703) 308-4242.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Ron Schwadron whose telephone number is (703) 308-4680. The examiner can normally be reached Monday through Thursday from 7:30 to 6:00. A message may be left on the examiners voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Christina Chan can be reached on (703) 308-3973. Any inquiry of a general nature or relating to the status of this application should be directed to the Group 1600 receptionist whose telephone number is (703) 308-0196.

RONALD B. SCHWADRON
PRIMARY EXAMINER
GROUP ~~1800~~ 1600

Ron Schwadron, Ph.D.
Primary Examiner
Art Unit 1644